

Party Government and Policy Responsiveness. Evidence from Three Parliamentary Democracies

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Abstract

Does party government moderate the responsiveness of public policy to public opinion? Analyzing a new dataset we examine whether the ability of governments to respond to the public on 306 specific policy issues in Denmark, Germany, and the United Kingdom is affected by the extent of coalition conflict and by the fit of the considered policy changes with government preferences. We find a systematic but relatively weak positive impact of public support on the likelihood and speed of policy change. Contrary to expectations, a higher number of coalition partners is not associated with fewer policy changes nor with weaker responsiveness to public opinion. We also find no evidence that responsiveness to public opinion is necessarily weaker for policy changes that go against the preferences of the government. Rather, it appears that public and government support for policy change are substitute resources.

Keywords

coalition government, legislative decision making, party government, policy change, policy responsiveness, public opinion

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Introduction

In democracies public policy should reflect the wishes of the people. In representative democracies embodied in parliamentary political systems, however, public policy is made not directly by the people, but by elected representatives in legislative assemblies and cabinet governments. This raises the important question how public opinion and the preferences of political parties in government interact in affecting policy making.

Research on policy representation (for recent reviews, see Wlezien and Soroka 2016; Erikson 2015; Shapiro 2011) has established that both in the US and in Europe public opinion has a strong but far from deterministic influence on public policy (see also Monroe 1998; Page and Shapiro 1983; Rasmussen et al. 2018a). This influence is manifested in relatively high degrees of congruence between what the median citizen wants and what the state of policy is (Lax and Phillips 2012), as well as in dynamic responsiveness, in which the state of public policy (e.g. Wlezien 1995; Erikson et

al. 2002) and policy agendas (Alexandrova et al. 2016; Bevan and Jennings 2014; Jennings and John 2009)¹ adapt to shifts in public preferences.

The literature on party government has examined the impact of party preferences on aggregate measures of the policy output of governments, finding only scant and contested evidence for the effects of party positions (i.a. Imbeau et al. 2001). Researchers have also investigated how the scope of differences in preferences between the relevant decision-making actors in the political system (Strøm et al. 2010; Martin and Vanberg 2011; Tsebelis 2002) affect legislative production and policy output, and have found mostly negative effects (Saeki 2009; Schermann and Ennser-Jedenastik 2014; Bräuninger et al. 2015; Tsebelis 1999). Yet, very few studies of the policy effects of government preferences, coalition conflict, and related concepts, such as veto players and preference heterogeneity, take into account the possible influence of public opinion (but see Binder 1999; Coleman 1999; Toshkov 2011).

In this article we focus on the question how public opinion and patterns of party government interact in shaping policy making in European parliamentary democracies. We propose a set of hypotheses about the direct effects of public opinion and government preferences on the likelihood of policy change, as well as about the interactions between public opinion, on the one hand, and government preferences, the number of parties in government, and issue salience, on the other.

To test these hypotheses we employ a comparative design in which we track a total of 306 policy issues across three countries: Denmark, Germany, and the United Kingdom (UK). For each of these issues, we identify measures of public opinion from representative national public opinion polls, and we trace whether policy change on the issue occurred within a four-year period starting at the time of the opinion poll. We construct measures of the positions of the government parties, and we estimate the salience of policy issues using media data. We model two central aspects of policy making – the occurrence of policy change (cf. Gilens 2012), discussed in the main text of the article, and the time it takes for change to occur, discussed in the Supplementary Material (Section 7).

Analysing this data, we find that public support increases the likelihood of policy change and decreases the time until change is adopted. Yet, whereas these effects are systematic, they are

¹ Examining why governments emphasize some issues over others, Bertelli and John (2013) have recently expanded upon the agenda responsiveness literature. Rather than simply argue that governmental agendas directly respond to public priorities, they examine whether returns, risk profiles and uncertainty in public signals about the value of prioritizing policies affect the decisions of politicians how much attention to allocate to a policy domain. Our focus differs from their work as we focus on whether the opinions of citizens are reflected in actual policy outcomes rather than in allocation of attention.

relatively small in substantive terms. Despite the concern that coalition governments may respond less to public opinion, we do not find strong evidence that this factor significantly weakens the opinion-policy linkage. Furthermore, even though we encounter some support for a positive effect of government support for a policy change on the likelihood of the change being adopted, there is no evidence that lack of support for a policy by a government decreases significantly responsiveness to public opinion.

These findings are important for understanding the role of party government in parliamentary systems in the process of representation. In empirical terms, we show that the general public can influence policy change to a comparable degree in three political systems that have rather different patterns of party government embedded in different institutions. In theoretical terms, our results help explain why coalition governments might not be less responsive to the wishes of the public. The normative implications of these results are significant as well. First, we show that even if political parties have weakened their links with society (Katz and Mair 1995), when in government they still follow to some extent general public opinion, and not only the wishes of their members and supporters. Second, we find evidence that party opposition cannot always override strong public support for policy change, which is good news for democratic representation.

Public opinion, party government, and policy making in parliamentary democracies

In representative democracies the influence of public opinion is typically exercised through a process of delegation in which the citizens elect representatives who share, express, and defend their views, and then the political representatives adopt policies in line with the views that enjoy the support of the citizens. In the particular case of parliamentary democracy, political parties take central place in the process of representation. But how do public opinion and the preferences of political parties in government interact? Before we explore this question empirically, we clarify the theoretical mechanisms involved and introduce a number of hypotheses about this process.

Since in parliamentary democracies parties typically govern in coalitions, we need to start the theoretical discussion with the problem of preference aggregation. In accordance with the standard postulates of spatial analysis (Shepsle 2010, Tsebelis 2002), we expect that a policy alternative would be adopted if and only if it is preferred to the status quo by the government. When the government is made of a single unified party commanding the necessary majorities in the legislature to pass

legislation, this expectation is straightforward. But when governments are composed of (a) multiple parties (i.e. coalition governments), or (b) single but heterogeneous parties with strong factions, or (c) single parties or coalitions that do not control majorities in the legislature (i.e. minority governments), we need further assumptions in order to aggregate the preferences of the relevant actors. Below we focus on the case of coalition government, but very similar arguments apply to factions within heterogeneous parties as well; we address minority governments in endnote *ix*.

There are different assumptions one can make about how the positions of coalition partners combine to form the position of the government. One possible aggregating assumption is that each party in the coalition holds veto power (Tsebelis 2002) over each policy alternative on all issues. This would lead to the expectation that only alternatives that make *all* government parties better off than the status quo will be adopted (for an illustration, see Figure A1 and the associated discussion in Section 1 of the Supplementary Material).

Alternatively, we can assume that government positions are formed as the weighted average of the positions of the coalition parties, with the weights corresponding to the relative size of the party in the coalition (e.g. Cusack 2001). This assumption agrees with much we know about coalition politics and captures well the intuitions that no coalition partner unilaterally rules in a policy domain, that a small coalition party cannot systematically veto alternatives across policy domains, and that bigger partners exercise more influence, yet small ones cannot be ignored.

These assumptions about the way coalitions work are necessary in order to define the proper way for aggregating the positions of governments from the positions of coalition parties². We report empirical models that are based on both of these assumptions. In the main text, we apply the ‘weighted average’ assumption, whereas we use the ‘veto power’ assumption in the Supplementary Material (see Model A1). In any case, the general expectation remains that the government will only adopt policy alternatives that are closer to its position than the status quo.

² Another possible assumption is that government parties divide the set of policy issues into exclusive spheres of competence so that only one coalition party matters for a particular issue. But this is not very realistic even in systems with strong ministerial autonomy. Major policy changes need to pass through parliament where coalition partners and opposition parties can exercise influence and there are a number of existing institutional mechanisms for controlling coalition partners, such as coalition agreements and the appointment of junior ministers from different parties (Andeweg 2000; Martin and Vanberg 2014).

This implication is in principle deterministic. However, we need to translate it into a probabilistic expectation in light of the limited data that we have to conduct the empirical tests³. Our data allows us to identify the *ordering* of the policy alternative and the status quo on the underlying policy scale but not their precise locations. In addition, the measures of party and government positions we have are on a more general scale than the individual policy issues. We assume that the further the government position is to the right (left) on the general scale, the more likely that the government will be closer to a policy alternative that moves the policy to the right (left) than to the status quo, and, consequently, the more likely that this policy alternative will be adopted by the government. For example, a government that has a score of 8 on a 1-to-10 economic left-right scale will be more likely to support a policy alternative that reduces the corporate tax rate (hence, the alternative moves the status quo in a ‘right’ direction) than a government with a score of 4. Hence, our first hypothesis is that:

(H1) The further a government position is to the right (left) of a relevant scale, the more likely that the government will adopt a policy alternative moving the status quo to the right (left) on that scale.

Let us turn to the influence of public opinion. So far we assumed that parties and governments only care about the substance of policies. But in democracies, parties need to consider the popularity of their policy decisions as well. Even if people do not hold strong, well-formed opinions on all policy issues (Achen and Bartels 2016), they might still have reasonably clear relative preferences about the direction and scale of desired policy change (Wlezien 1995). Hence, public support for a particular policy alternative sends a strong signal and can only be ignored at a significant political cost.

Adopting unpopular policies risks that citizens will punish the government parties at the next elections and that the party brand will be damaged. The risk that the public expresses its discontent through protests or civil disobedience should also encourage politicians to be attentive to the views of the public (Brooks and Manza 2006). In addition, parties might want to follow the will of the public for normative reasons, i.e. because they believe that public opinion should be respected. Even if the

³ It has proved, in fact, quite difficult to demonstrate empirically a link between the general positions of parties in government and the content of policy changes they make (cf. the meta-analysis of Imbeau et al. 2001; Schmitt 2016; as well as the more recently, Knill et al. 2010).

public popularity of policy alternatives is not the only concern of government parties, we would expect, other things being equal, that governments will prefer alternatives with higher public support. In effect, the popularity of different policy alternatives enters the parties' utility functions over different policy alternatives, and combined with the substantive policy implications of these policies, determines the responses of parties to particular alternatives⁴. (We illustrate how substantive policy preferences and concerns about public opinion interact in Figure A2 in the Supplementary Material).

To the extent that the public popularity of policy alternatives is exogenous to the political process, public opinion provides a soft constraint on the substantive policy choices of parties. Sometimes the substantive benefits of the policy will outweigh the popularity costs for the government, and other times the potential policy gains will not be worth going against public opinion. Similarly, ignoring a policy alternative strongly favoured by the public is costly for the government parties, which will be seen as unresponsive and undemocratic. This discussion leads to the second hypothesis:

(H2) The stronger the public support for a policy alternative, the higher the likelihood of adopting the policy alternative.

Note that the government will never prefer an alternative that is further away from its substantive position *and* enjoys lower public support than the status quo. But if either the popularity of the policy alternative increases or the government substantive preference changes, the government can shift to support the policy alternative. In other words, for policies with weak public support and government support, changing either of these factors matters *at the margin*. But for policy alternatives that enjoy popular support and are closer to the government's substantive position than the status quo, decreasing either might not have an effect on the government's preference. Even if public support for the policy alternative drops, it might not drop sufficiently to offset proximity on the substantive dimension, and vice versa. Hence, our third hypothesis states that:

⁴ There are also institutional mechanisms through which parliamentary opposition can bring policy issues to the legislative agenda and entice the government to act. For example, in Germany individual parliamentarians can launch a small inquiry to the government. Five percent of the parliamentarians or one party can start a big inquiry that forces the government to put the item on the agenda. 25 percent of the parliamentarians or, since 2014, the whole opposition, can call an inquiry committee. Lastly, five percent of the parliamentarians can initiate legislation. Similarly, in Denmark, by getting a resolution adopted, the opposition can commit the Parliament to present a legislative proposal.

(H3) The effect of government support for a policy alternative on the likelihood of its adoption is weaker for policies that enjoy public support. The effect of public support for a policy alternative on the likelihood of its adoption is weaker for policies that enjoy government support.

Expressed in more qualitative terms, this hypothesis implies that the link between (substantive) government positions and policy change should be relatively weak when the public strongly favours a policy alternative, and stronger when there is lower public support. Similarly, the likelihood of policy change should be more sensitive to the level of public support when there is low government support for the policy change, rather than when the change is strongly favoured by the government already.

In accordance with the mechanisms suggested above, public support should matter more for alternatives that enjoy high salience in society. Salience indicates the importance attached to an issue irrespective how popular certain policy alternatives are in the population. In work on coalition governance it has, for example, been expected that government parties would prioritize acting on salient issues on which they agree in order to increase their benefits (Martin 2004). When it comes to responding to public opinion, governments should pay more attention to public support on salient issues where their behaviour is more likely to have electoral consequences for them (Lax and Phillips 2012). We can consider salience as increasing the weight of the popularity concerns vis-à-vis the substantive policy concerns of the government. In the limit, on policies that are not salient to the public at all, the popularity of different alternatives should not matter (the weight of this dimension would be zero). Accordingly, we hypothesize that:

(H4) The more salient the policy issue, the stronger the effect of public support for a policy alternative on this issue on the likelihood of its adoption.

So far we considered policy making exclusively through the prism of public and government preferences. But some structural features of governments might have effects on the likelihood of policy change and its responsiveness to public opinion as well. One factor that has been often studied is the influence of coalition conflict (see e.g. Martin and Vanberg 2011; Strøm et al. 2010). This factor refers to the potential for disagreements within the governing coalition that stem from the different preferences of the coalition partners. But if the effect of coalition conflict stems from the preference heterogeneity within the coalition (Tsebelis 2002; König et al. 2010; Bräuninger et al. 2015), it is

parasitic on the effect of government party preferences, which we already addressed. In addition, in order to relate directly the extent of preference heterogeneity within a coalition to the likelihood of policy change we have to assume that each coalition partner holds veto power over all policy alternatives. We already explained that this is a strong and not very realistic assumption above.

But there might be additional reasons why coalition governments with more diverse partners would be less likely to adopt new policies, on top of what is already captured by the hypothesis about the effect of government party preferences. Coalition governments with more diverse partners might need to spend more time reaching compromises and discovering their common positions (Konig 2007; Rasmussen and Toshkov 2013; Martin and Vanberg 2004), which would limit their overall productiveness. According to Martin and Vanberg (2005, 2004), the incentive to scrutinize the coalition partners increases with the ideological divergence within the coalition government, and parliamentary scrutiny also takes time.

The existing literature also suggests another idea, namely that the clarity of responsibility for government (in)actions is diffused, because people find it hard to attribute blame for particular actions to individual coalition parties (Duch et al. 2015). If this is the case, we would expect coalition governments to be less responsive to public opinion, because adopting unpopular policy alternatives will not hurt the government parties as much as it would under a single-party government, where it is clear which party goes against the will of the public. Relatedly, Coleman (1999) provides evidence that there is higher responsiveness to public opinion in periods of unified compared to divided government in the US (see also Binder 1999 and Gilens 2012). Hence, we hypothesize that:

(H5) The fewer the parties in government, the stronger the effect of public support for a policy alternative on the likelihood of its adoption.

To sum up the theoretical discussion, we expect that the likelihood of adoption of a policy alternative increases with (H1) higher government support and (H2) higher public support for the alternative. In addition, (H3) the effect of government support is weaker for policies that enjoy public support, while (H4) the effect of public support is stronger for more salient issues and (H5) the fewer the number of parties in government.

Research design, data and operationalization

In general terms, our research design is based on a comparison of the occurrence of policy change on a large number of policy issues across several national political systems. The countries we study –

Denmark, Germany, and the UK – are all established parliamentary democracies that differ, however, in their characteristic patterns of party government. While single-party majority cabinets are common in the UK, multiparty coalitions are typical in Germany and in Denmark, where one also observes the phenomenon of multi-party *minority* coalition cabinets. During the time-period of our analysis, the number of coalition partners differed not only between the three countries, but also within the countries over time. For example, the UK experienced both a single-party majority cabinet and a two-party coalition, Germany went through several coalitions that varied in the range of preferences of the participating parties, and Denmark went through a number of successive coalitions, both majority and minority ones.

Unit of observation and sample selection

Our unit of observation is a policy issue in a country over time, and we analyse 306 issues in the three countries. We look at *concrete* policy issues, rather than aggregate policy output measures or latent policy dimensions. For each policy issue, we identify public support for a policy alternative (call for public action) that relates to specific measures that the national politicians can adopt. In line with existing research (Gilens and Page 2014; Gilens 2012) we then follow each of these issues from the time of the public opinion poll until the policy change is adopted or, if that does not happen, to a maximum of 48 months. Our focus on concrete issues has the advantage that we relate public opinion and public policy directly (Gilens 2012; Lax and Phillips 2009; Burstein 2014). By selecting a time window of up to four years, we allow ample time for new alternatives to enter the legislative agenda and get adopted⁵.

To select the policy issues we analyse, we started with identifying relevant questions asked in representative nationwide public opinion surveys in Denmark (1998-2010), Germany (1998-2010) and the UK (2001-2010). To be relevant, the questions had to tap into the attitudes of the adult population towards issues of public policy, to involve a call for future political action, and to relate to *specific* policy issues. In addition, the questions had to concern issues of *national* (as opposed to EU and regional/local) policy competences, and the responses had to be measured on a scale on which respondents expressed the extent to which they agreed or not with a given policy change.

⁵ Since the beginning of the observation period for the cases does not coincide with the beginning of the government term (for reasons of availability of public opinion data) following the issues until the end of the term would have provided too little time for governments to respond to many of the issues in our dataset.

We identified a total of 102 survey questions that fulfilled these criteria in Germany, 211 in Denmark, and 239 in the UK⁶. In our final sample, we took all the 102 relevant questions in Germany, and we used random sampling stratified by year to select 102 questions from Denmark and the UK each, for a total of 306 cases⁷.

In all three countries the selected survey questions cover a wide range of different policy issues and relate to different policy areas that represent diverse policy types: regulatory, (re)distributive and constituent policies (see Table A1 in the Supplementary Material). For instance, in the UK the sample includes questions concerning a possible amnesty to illegal immigrants, the introduction of an identity card system, and the replacement of university tuition fees with a graduate tax scheme.

Our sampling strategy is constrained by the availability of reliable public opinion data representative at the national level (Gilens 2012; Monroe 1998). As a consequence, our sample might be biased towards more salient issues that are more likely to get the attention of polling companies. The potential bias is not necessarily a problem since focusing on questions that have at least some amount of salience makes it “plausible that average citizens may have real opinions and may exert some political influence” (Gilens and Page 2014: 568). Still, it is worth reminding that our sample of issues might not be representative of the universe of all *possible* policy issues of national competence that could have been on the agenda, despite the fact that it covers a broad range of policies in terms of type and domain.

A recent US study on responsiveness addresses this challenge by sampling its cases from alternatives on the legislative agenda rather than from available polls (Burstein 2014). However, constructing such a potential universe of issues is difficult in the context of a cross-country comparative study like ours, given that there is no comparative sampling frame of all possible issues that would be applicable to all three countries. Moreover, relying on national legislative databases or media in the three countries would only yield information about issues that have passed a first “threshold of access” by being picked up by either politicians or the media, which might create another source of bias. Instead, only 51 of the 306 issues in our sample were related to an existing bill alternative or cabinet decision when the opinion question was asked, and the sample covers issues

⁶ In Denmark, all selected survey questions came from surveys conducted by the Gallup Institute. In Germany, we relied on questions from asked by the Politbarometer surveys. For the United Kingdom, we relied on a list of questions from YouGov and ICM sampled by Will Jennings, which was further appended by additional survey questions from the mentioned companies

⁷ The sampling was necessitated by the high costs of data collection per policy issue and to a lesser extent by the need to keep the number of cases balanced across the three countries.

of rather different salience within each of the three countries (with some issues not receiving any coverage in our newspapers at all). In sum, we can be confident that the sample includes issues of varying media salience and at various stages in the policy-making process.

Outcome variables

In the empirical analyses reported in the main text, we use logistic regression to model the likelihood of policy change (i.e. whether the national government or parliament adopted primary or secondary legislation in line with the public call for change), for each government that was in office within the four-year observation period that we follow. In the Supplementary Material we also report results of analyses of the speed of policy change, as a second theoretically-relevant aspect of public policy making. This set of analyses focuses on the duration between the date of the public opinion survey and the date of the policy change, if it occurred within the four-year case-specific period of observation. To detect the occurrence and timing of policy change we relied on historic information provided by legislative databases, other government (web)sources, online newspaper archives, and information provided by interest groups and professional associations. Descriptive statistics of the variables used in the analysis are reported in the Supplementary Material (Table A1).

Explanatory variables

We operationalize public support for policy change as the percentage of all respondents in favour of the call for policy action as expressed in the public opinion survey. To further explore the possible effect of public opinion, we employ an alternative operationalization – public support calculated as the share of respondents in favour from those with an opinion; hence, excluding no responses and ‘don’t knows’ (see Model A3 in the Supplementary Material).

The measure of government support for policy change requires that we obtain estimates of relevant government and party positions. To do that, we use the Chapel Hill expert survey of party positions (Bakker et al. 2015)⁸. We make the measures policy scale-specific: first we classify each

⁸ We considered the Manifestos Project data (Klingemann et al. 2007) as an alternative source of party and government positions. We obtained the necessary data and constructed measures on 12 point scales constructed from the Manifesto items related to our policy issues, using the scaling approach suggested by Lowe et al. (2011). The data, however, failed face validity checks as it provided implausible estimates of party positions and relative ranking of the parties on scales and positions. It also provided a worse match with the set of directly-measured party positions we obtained for the German subsample of our data (see Section 2 of the Supplementary Material). Hence, we decided against reporting results based

of the 306 policy issues to one of the three main scales in the Chapel Hill dataset – general left/right, economic left/right and GAL-TAN (green, alternative, and liberal vs. traditional, authoritarian and nationalist), then we identify the relevant party positions on these scales and assign them to the case, and finally we compute the government support measures⁹.

Matching public opinion data on concrete policy alternatives with government preference data that is on more general policy scales is less than ideal, especially since the policy status quo points cannot be located on the general policy scales.

To address this concern and explore the validity of the policy scale measures, we obtained direct measures of party support or opposition to the subset of 102 cases in Germany (Romeijn 2018). The direct measures were based on hand-coding of the party positions on the basis of statements in the national media. Comparing the two sets of measures, we found that the general policy scale measures are strongly and significantly predictive of party support/opposition on the concrete policy issues. Moreover, when we dichotomized the party positions on the general policy scales at the mid-points, we found that in close to two-thirds of the cases there was agreement between the two sets of measures (i.e. when the party position was to the *right* of the mid-point of the scale, the direct measure indicated party *opposition* to a policy alternative that was moving the status quo to the *left*). These results indicate that the expert survey-based estimates of party positions are imperfect but altogether informative.

We conducted similar tests comparing the party positions on the specific issues to scores obtained from the Manifesto project scores, assigning each issue to one of twelve scales (Klingemann et al. 2007; Lowe et al. 2011). Despite the higher number of scales in the Manifesto dataset, we obtain a weaker match with the directly measured party positions than with the Chapel Hill expert data. The details of the validation tests are provided in Section 3 the Supplementary Material. To check to what

on this data source, which is more appropriate for measuring party attention to particular issues rather than positions as such.

⁹ The Danish case presents a theoretical challenge for the measurement of average government positions and coalition conflict because of the minority status of the cabinets in the country during our period of observation. Taking into account only the parties formally part of the (minority) coalition might underestimate the degree of intra-government conflict and misrepresent the average government position since the governing parties need the support of additional parties in the legislature to pass legislation. At the same time, minority coalitions have flexibility in choosing a partner in the legislature for particular policy alternatives that is not easily captured. Nevertheless, we constructed alternative measures of government positions and coalition conflict in Denmark that take into account the unofficial but regular legislative partners of the parties in the governing minority coalitions. The results based on these alternative measures can be found in Table A2 in the Supplementary Material. The results are very similar to the ones that do not take into account the minority status, and the effects of government positions and number of parties in government are, if anything, weaker.

extent the results of our empirical analyses are dependent on the exact measure of government preferences used, our analysis replicates the analysis using the Chapel Hills data with the direct hand-coded measure of government support for the German sample where we have both measures available (see below).

As mentioned, we employ two ways to aggregate the measures government positions from party positions, consistent with the different theoretical assumptions about coalition politics we discuss in the theory section. The first set of measures are operationalized as the *weighted average* of the positions of the parties in government, with the weights corresponding to the relative shares of the seats in the legislature held by the coalition party from the total number of seats held in the legislature by all coalition partners¹⁰. To obtain a measure of relative government *support* for policy change from absolute government *positions*, we have to consider the *direction* of policy change for each case. To that end, we first code the implied direction of each policy change (e.g. left or right), and then we invert the original government positions where needed, so that more right wing parties are aligned with right-leaning policy changes and left wing parties with left-leaning changes¹¹.

For the second, alternative, way of aggregating party preferences into government preferences, we consider each government party as a veto player. Accordingly, we take the position of the left-most government party as the government position for changes in a right-leaning direction, and the position of the right-most government party for changes in a left-leaning direction¹² (see Model A1).

We measure the media saliency of each case by tracking the number of newspaper articles related to the case in one major national newspaper in each country (*Politiken* in Denmark, *Sueddeutsche Zeitung* in Germany, and *The Guardian* in the UK) in the period between one month prior and one month after the public opinion survey was conducted.¹³

¹⁰ For easier interpretation, the original scales, which range from 1 to 10, are centered at zero.

¹¹ For example, if the call for action concerned increasing taxation (left-leaning policy change), we inverted the position scores of the relevant government, so that higher scores would be associated with more economically left-wing positions (on the original scales, higher scores are associated with more right/TAN positions).

¹² When measuring the positions of the government parties in Germany, we only focus on the parties' seats in the lower Bundestag. In principle, the Bundesrat (upper chamber) has the potential to influence some legislative acts. However, a large share of legislative acts do not require the vote of the upper chamber, and the government can find creative ways to circumvent a potential veto by the Bundesrat (see Merkel 2003).

¹³ The Boolean media keyword search was conducted using the FACTIVA database. A complete list, including all Boolean search requests, for all the 306 survey questions will be provided by the authors on request. The keywords represent the respective items as accurately as possible while paying attention to the scope of the policy item. We included the plurals of the selected key words, their word stems, and their synonyms. The media count for each country is

In addition to these main variables of interest, we include a variable that indicates whether the call for public action was related to an existing bill or cabinet decision when the public opinion question was asked, because such cases could have a higher likelihood of policy change. Also, all empirical models reported below include country fixed effects (dummies) in order to control for unobserved country-level heterogeneity in the likelihood of occurrence of policy change. Because in the logistic regression models the unit of analysis is a government spell (a period of time during which a government is responsible for a policy issue), we also include as a control the remaining formal tenure of the government (in months) from the moment of its inauguration or the date of the public opinion survey (whichever comes last) to the moment of its expected dissolution or the end of our observation period (whichever comes first).

Empirical analyses

Public opinion and policy change

We present a detailed analysis of the bivariate relationship between public opinion and policy change in the Supplementary Material (Section 4 with Figures A3 and A4). In summary, in all three countries the likelihood of policy change increases with higher levels of public support, both absolute and net. In substantive terms, however, the effect of public opinion is relatively small. We also observe rather modest levels of congruence between policy and majority public opinion at the beginning of the observation period, and even more modest levels of improvements in congruence over time, despite a considerable degree of policy-making activity¹⁴.

Multivariate logistic regression models

Table 1 presents the results of our multivariate logistic regression models of the likelihood of policy change, for each government that was in office within the four-year observation period, using the Chapel Hill measures of party positions. Model 1 includes the main variables of interest and the

standardized, i.e. the variable is rescaled to have a mean of zero and a standard deviation of one in each country. By measuring issue coverage within a fixed two month period, we avoid bias resulting from the fact that opinion items which experience a policy change receive higher media attention in the time period before the actual policy change occurs.

¹⁴We should note that the positive effect of public opinion on the likelihood on policy change does not appear to be linear, but the exact form of the relationship differs across the three countries and does not follow a simple interpretable pattern (for details, see Figure A4 in the Supplementary Material). The non-linearity is less pronounced in a multivariate setting, however.

controls, but no interactions. Model 2 adds the interaction between government support and public support. Model 3 includes an interaction between media salience and public support, while Model 4 includes an interaction between the number of parties in government and public support¹⁵.

Table 1. Logistic regression models of policy change

	Model 1	Model 2	Model 3	Model 4
<i>Intercept</i>	-2.22 (0.81) p-value=0.006	-2.19 (0.81) p-value=0.007	-2.30 (0.81) p-value=0.005	-2.20 (0.81) p-value=0.006
Public support	1.41 (0.56) p-value=0.011	1.48 (0.57) p-value=0.009	3.53 (1.90) p-value=0.063	1.13 (0.87) p-value=0.193
Government support	0.12 (0.08) p-value=0.143	0.14 (0.09) p-value=0.104	0.12 (0.08) p-value=0.162	0.12 (0.08) p-value=0.145
Public support*Gov. support	/	-0.46 (0.41) p-value=0.26	/	/
Number of parties in government	-0.32 (0.26) p-value=0.213	-0.34 (0.26) p-value=0.198	-0.29 (0.26) p-value=0.271	-0.33 (0.26) p-value=0.208
Public support*Number of parties	/	/	-0.98 (0.84) p-value=0.241	/
Media salience	0.31 (0.10) p-value=0.002	0.31 (0.10) p-value=0.002	0.32 (0.1) p-value=0.002	0.31 (0.10) p-value=0.003
Public support*Media salience	/	/	/	0.18 (0.42) p-value=0.673
<i>Existing proposal</i>	0.91 (0.29) p-value=0.002	0.91 (0.29) p-value=0.002	0.91 (0.29) p-value=0.002	0.91 (0.29) p-value=0.002
<i>Remaining months</i>	0.04 (0.01) p-value<0.001	0.04 (0.01) p-value<0.001	0.04 (0.01) p-value<0.001	0.04 (0.01) p-value<0.001
<i>Denmark</i>	0.26 (0.32) p-value=0.418	0.23 (0.33) p-value=0.486	0.28 (0.32) p-value=0.380	0.26 (0.32) p-value=0.427
<i>United Kingdom</i>	-1.28 (0.45) p-value=0.005	-1.29 (0.45) p-value=0.004	-1.30 (0.46) p-value=0.004	-1.29 (0.45) p-value=0.004
AIC	515	516	516	517

Note: Logistic regression models (with logit link). Dependent variable: occurrence of policy change. Unit of analysis is a government spell in a policy issue; N=525. Unstandardized and unexponentiated coefficients. Public opinion centered at 0.5. Media salience is logged.

¹⁵ The interactions are entered separately to ease interpretation of the marginal effects. A model including all interactions at the same time is reported in the Supplementary Material (Model A4).

We see that government support for the policy alternative has the positive effect suggested in hypothesis 1. The estimate of the effect, however, lacks the necessary precision to attain standard levels of statistical significance, with the p-value varying between 0.10 and 0.16 in the four models. In contrast, the effect of public support is statistically significant at the 95% confidence level in Models 1 and 2 and is consistently positive, in line with the expectation in hypothesis 2. Yet, in substantive terms the effect is relatively small: for an increase of public support for a policy from 50% to 60%, the coefficients from Model 1 imply that the likelihood of policy change increases with 2.1 percentage points (other covariates held constant at their means or typical values).

Looking in more detail at the patterns in the data (see also Figure A3 in the Supplementary Material), we note that in Germany, despite a considerable amount of policy activity, the probability of policy change was not strongly affected by the degree of public support and, as a result, overall congruence between the wishes of the majority and the state of policy hardly improved over a four-year observation period.

Responsiveness was higher in the case of the UK, but coupled with a rather stronger status quo bias of the British policy-making system, this also did not produce a high degree of congruence between policy and majority public opinion. In Denmark, moderate responsiveness and relatively high degree of policy-making activity produced the highest degrees of congruence we observed, although in absolute terms congruence was still disappointingly low.

According to Model 2, the interaction between public and government support is negative, although non-significant at the 95% level. When we plot the interaction, we can see that the sensitivity of the likelihood of policy change to the level of public support is stronger for policy changes that *lack* government support and is rather flat for policies that enjoy government support. Similarly, the effect of government support on the likelihood of policy change is rather steep for policy changes that lack public support, but non-existent for policies that enjoy public support (Figure A5 illustrating these effects is to be found in the Supplementary Material). These inferences are consistent with the theoretical predictions put forward in hypothesis 3. Yet, in light of the lack of precision with which the effects are estimated, we should remain cautious in the interpretation. We *can* say that there is no evidence in our data that policy responsiveness to public opinion is *less* likely on policy issues that would move policy in a direction opposite to the government positions. If anything, public support for a policy seems to matter more when the policy changes are *not* in line with the preferences of the government. If we take the results of Model 2 and Figure A5 seriously despite the lack of standards levels of statistical significance, it would appear that a policy change has a very similar chance of

being adopted (a) under a supportive government irrespective of its level of public support and (b) under an opposing government but only if it enjoys very high levels of public support.

Media salience has a strong and significant positive effect on the likelihood of policy adoption: doubling the number of newspaper articles on a topic (salience) is associated with a 40% higher risk of policy change. Against the expectation in hypothesis 4, there is no evidence, however, for an interaction with public opinion (Model 4; for the plot, see Figure A7). This is important in light of our hypothesis and the existing literature that has emphasized the potential role of salience in moderating the impact of public opinion on policy change.

The effect of the number of parties in government is negative, but, again, the effect is not estimated precisely enough to reach statistical significance at the 95% level. The effect is stronger within countries but disappears in the pooled data. Examining the interaction effect between the number of parties in government and public opinion (Model 3), we find the negative sign that we hypothesized in hypothesis 4, but the standard error of the estimate of the coefficient is rather large, so that statistical significance is not attained. Looking at the figure plotting the interaction effect (Figure A6 in the Supplementary Material), confirms the impression that the size of the interaction effect is large in substantive terms, but there is considerable uncertainty about the estimates¹⁶.

Examining the data in more detail, it is remarkable that Denmark – governed by minority coalitions throughout our study period – exhibited the highest ability to produce policy change, while the UK – governed for a large part of the observation period by a single party majority government – experience the least amount of policy change¹⁷.

Finally, we should note that the control variables have the expected effects in Models 1-4: the formal time of a government remaining in office and the prior existence of a government bill all increase the likelihood of policy change. The existence of a bill makes it more than 2.5 more likely that policy change will follow, and each additional month in office adds approximately a 4% increase in the odds.

¹⁶ When we use the alternative operationalizations of the number of parties in government and government support that take into account the unofficial partners of the governing parties in the Danish minority cabinets, we obtain essentially the same results.

Using the direct measures of government support

The models reported in Table 1 are based on the general policy scale-based measures of government positions. As discussed above, for the German subset of the data we also have direct measures of party and government support or opposition to the policy alternatives.

Table 2. Logistic regression models of policy change in Germany

	Model 5	Model 6
<i>Intercept</i>	-4.82 (1.62) p-value=0.003	-4.77 (1.63) p-value=0.003
Public support	0.21 (1.00) p-value=0.830	0.44 (1.09) p-value=0.690
Government support	1.37 (0.34) p-value<0.001	1.35 (0.34) p-value<0.001
Public support*Gov. support	/	-0.76 (1.39) p-value=0.585
Number of parties in government	0.61 (0.45) p-value=0.174	0.60 (0.45) p-value=0.182
Media salience	0.46 (0.20) p-value=0.023	0.46 (0.20) p-value=0.023
<i>Existing proposal</i>	0.75 (0.61) p-value=0.213	0.72 (0.61) p-value=0.233
<i>Remaining months</i>	0.02 (0.02) p-value=0.145	0.02 (0.02) p-value=0.166
AIC	168	170

Note: Logistic regression models (with logit link). Dependent variable: occurrence of policy change. Unit of analysis is a government spell on a policy issue; N=159. Unstandardized and unexponentiated coefficients. Public opinion centered at 0.5. Media salience is logged.

To explore the extent to which the empirical results are sensitive to the type of government position measures used, we replicate two of the models using the direct measures, and report the results in Table 2. According to these models, the effect of government support, when measured directly, is stronger and is estimated more precisely (the p-values of the coefficients of government support are much lower despite the lower number of observations compared to the models in Table 1).

Moreover, the effect of public support is now weaker (although still positive), which accords with the idea that, when measured directly, explicit party support for policy alternatives already

captures concerns about the public popularity of policies in addition to the substantive policy preferences of the parties. It is also worth noting that the effect of the variable capturing whether the issue was already subject to an existing legislative proposal (bill) is no longer significant, unlike the equivalent models in Table 1. As in Model 2 in Table 1, the interaction effect between public support and government support is negative (see Model 6 in Table 2), but is not statistically significant.

Different ways of aggregating party positions into government positions

In the previous sections we discussed the different ways in which one can aggregate the positions of parties ruling as a coalition into a single government position. The models reported in Tables 1 and 2 are based on the ‘*weighted average*’ assumption in which each party has influence proportional to the share of seats in the legislature it holds relative to the other coalition partners. As mentioned, a prominent alternative assumption is that each coalition partner holds veto power over all policy issues. When we aggregate government position using this ‘veto power’ assumption, we obtain similar results to the ones reported in Table 1, but the positive effect of government positions is somewhat weaker and less precisely estimated (see Model A1 in the Supplementary Material). The pattern is similar when we compare the two methods of aggregating the direct measures of party support/opposition: the effects based on the ‘*weighted average*’ assumption are stronger and more precisely estimated than the ones based on the ‘*veto power*’ assumption. This suggests that the weighted average assumption is a better model of how party positions are aggregated within governments, at least when a broad range of policies as the one in our sample is considered.

Conclusion

Recent years have witnessed an expansion of the study of responsiveness to a broad range of political systems, and a new research agenda has started exploring how contextual differences in institutional architectures might contribute to explaining varying degrees of opinion-policy linkage (Wlezien and Soroka 2012; Lax and Phillips 2012; Rasmussen et al. 2018a). At the same time, other contextual factors that may affect responsiveness, such as the impact of party positions and coalition government have received less attention. By linking insights from the literatures on policy responsiveness and party government, we identified a number of hypotheses how government positions, the number of parties in government, and salience could not only impact policy making directly, but also moderate the degree of policy responsiveness.

Testing these hypotheses, we found a systematic but limited degree of policy responsiveness in the three parliamentary political systems examined. Interestingly, we did not find that responsiveness is too constrained when the policy alternatives on the agenda run counter to the *general* policy positions of the parties. To put it differently, responsiveness was not necessarily weaker on issues that move policy in the opposite direction to the policy preferences of the government, as inferred from their positions on general left-right scales. If anything, it would appear that government and public support are substitutes, so that public support for policy change matters more when the policy does not enjoy government support, and government support for policy change matters more when the policy change is not favoured by the public. Government support, however, when measured directly, was a strong predictor of the likelihood of policy change, at least in the case of Germany for which such data was available.

In addition, we found only weak evidence that the number of coalition partners has a negative effect on policy adoption or that it moderates policy responsiveness. The lack of a strong effect of coalition conflict¹⁸ on policy-making capacity is unexpected, although in hindsight we can evoke reference to the concept of ministerial autonomy to rationalize the null result (Martin and Vanberg 2014; e.g. Laver and Shepsle 1994). Moreover, it needs to be remembered that even if holding governments to account may be more difficult in countries with frequent coalition governments, coalition governance does not only make it harder for governments to act on popular policies, but may also prevent them from adopting unpopular ones in practice (Gilens 2012).

These results are important because they imply that different political systems with different patterns of party government can achieve comparable levels of responsiveness. The data also suggests that parties, when in government, are constrained as to their abilities to ignore public preferences for policy change, even when the change will contradict their general ideological orientations. So even if, in general, parties have weakened their links with society (Katz and Mair 1995), when they have to govern, they still reflect the wishes of the median citizen to a considerable, if imperfect, extent.

Future research should extend our study of responsiveness to other parliamentary systems with strong parties. While it is reassuring to also find signs of responsiveness in such systems, the complex relationships between coalition status, partisan preferences, and responsiveness in these contexts deserve further scrutiny. A promising approach for such research would extend our efforts and expand the limited existing data measuring party preferences related to specific issues. Our study already

improves on existing literature by linking public policy, public opinion and government positions on three different scales, rather than simply using general left-right ideological positions as proxies for government preferences. But there could be advantages of looking into even more concrete party positions on policy issues in order to disentangle the effects of government preferences on policy changes and responsiveness (cf. Romeijn 2018). It is possible that stronger effects of government preferences on policy change *and* on responsiveness can be found with more direct measures of party and government preferences.

There is also scope for extending our research to studies of the dynamic relationship between opinion and policy over time in Western European parliamentary democracies. As mentioned, responsiveness is likely to be a reciprocal relationship, in which both opinion and policy adapt to each other. In a study of a high number of different issues like ours, examining the dynamic relationship is not possible due to the limited availability of repeated opinion polls on the same specific topic in the examined countries. By focusing on specific issues, we address one of the criticisms of studies linking general measures of opinion and policy when it comes to assessing causality. They face the potential challenge that the issues used to construct the aggregate opinion and policy measures may not be the same (Lax and Phillips 2012; Burstein 2014). Instead, our approach gives us confidence that the public has expressed its attitudes towards the same policies as the ones for which we measure policy outcomes. However, future research should complement our research by scrutinizing the reciprocal linkage between opinion and policy further in studies of the small subset of specific policy issues for which time series data is available (e.g. Rasmussen et al. 2018b) and by relying on qualitative and experimental methods.

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Supplementary Material

Contents

1. Spatial illustrations of the theoretical reasoning (Figures A1 and A2)
2. Descriptive statistics (Table A1)
3. Validating the measures of party positions (Table A2a,b and Table A3)
4. Public opinion and policy change: descriptive and bivariate analyses (Figures A3 and A4)
5. Additional logistic regression models of policy change (Table A4)
6. Additional figures illustrating the interaction effects (Figures A5:A7)
7. Time until policy change: duration analysis (Figure A8 and Table A5)

1. Spatial illustrations of the theoretical reasoning

This part of the Supplementary Material provides spatial illustrations of the theoretical arguments presented in the main text of the article. The purpose of these illustrations is to clarify further the logic behind the hypotheses we propose.

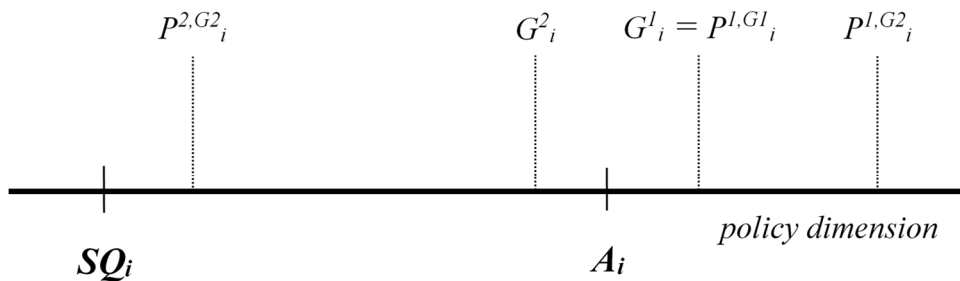
First, we deal with the aggregation of party preferences into a single government position. In Figure A1 the horizontal line represents a single policy dimension i (i.e. a continuum of ordered possible choices of policies on an issue; for example, the level of taxation or the strictness of immigration policy). The point labelled SQ_i stands for the status quo policy, and A_i is the policy alternative under consideration. In accordance with the standard postulates of spatial analysis, a policy alternative A_i is adopted if and only if it is preferred to the status quo by the government G_j (i.e. the alternative A_i is closer in spatial terms to the government's most-preferred policy or 'ideal point' G_j^i). Note that the model takes the policy alternative under consideration versus the status quo as exogenous, i.e. determined outside the model. This is a major simplifying assumption as it relieves us from the burden of finding the policy that maximizes the government's utility: we 'only' need to compare the exogenously given alternative to the status quo. But the empirical data we use to test the model is structured in terms of support for particular policy alternatives, which warrants making this simplifying theoretical assumption. Future work should attempt to incorporate the definition of the policy alternative endogenously within the model.

When the government is composed of a single unified party $P^{k=1,Gj}$ that controls the necessary majorities in the legislature to adopt policies, we can take the ideal point $P^{k=1,Gj_i}$ of this government party as the ideal point of the government as such. When there are multiple parties, things are more complicated and we need further assumptions to aggregate the positions of the coalition partners.

One possible aggregating assumption we can make is that each party in the coalition holds veto power over each policy alternative on all issues. This would lead to the expectation that only alternatives that make *all* government parties better off than the status quo will be adopted. For example, looking back at Figure 1, when we consider government G^2 composed of parties $P^{1,G2}$ and $P^{2,G2}$ we will expect under this ‘veto power’ assumption that the government will support the SQ_i versus A_i because the ideal point of the second government party $P^{2,G2}_i$ is closer to the SQ_i than to the policy alternative A_i .

Another assumption we can make is that government positions are formed as the weighted average of the positions of the coalition parties with the weights corresponding to the relative size of the party in the coalition. In the preference configuration shown in Figure A1, this assumption will declare G^2_i , which is equidistant from $P^{1,G2}$ and $P^{2,G2}$, to be the ideal point of government G^2 (if the coalition partners have equal size; if not, the ideal point will be shifted towards the bigger partner). Hence, the government G^2 would be closer to the policy alternative A_i than to the SQ_i and would be predicted to adopt the policy alternative.

Figure A1. A spatial model of policy change as a function of party government preferences



Having clarified the aggregation of party preferences into a government position, we turn towards the issues of how the substantive, policy-related preferences of the government and their concern about public opinion combine.

Figure A2. A spatial model of policy change with governments having substantive policy preferences and concerned about public support

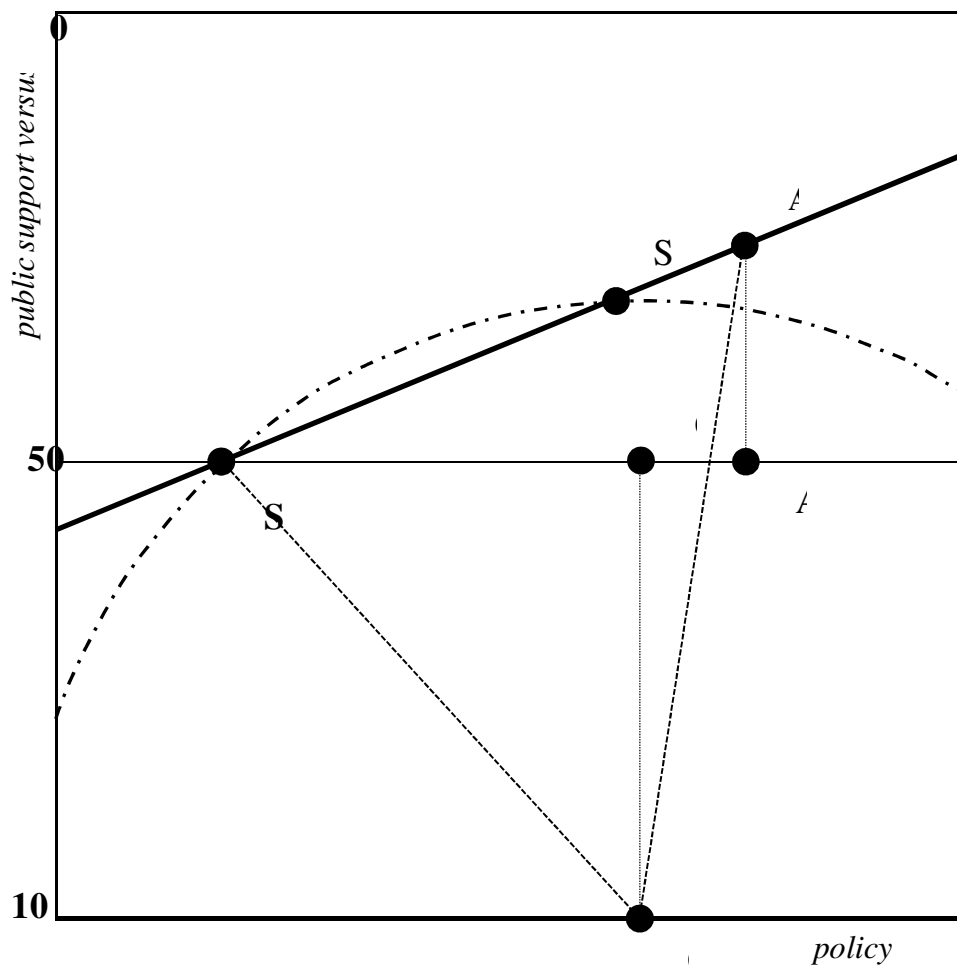


Figure A2 illustrates how the policy choices of governments are influenced both by their position on the substantive policy dimension and by their concerns about the popularity of different policy alternatives. The government's ideal point, aggregated from party positions as discussed above, on the substantive policy dimension is G_i . The government's utility declines with policies that are further

away on the policy (horizontal) dimension and with lower public support for the policy alternatives (the vertical dimension). Public support is represented on the y-axis and runs from +100% support for a policy alternative versus the status quo (at the bottom) to 0% support (at the top) (hence, 100% prefer the status quo versus the alternative). The status quo's position SQ_i on the policy dimension is always at 50% public support (because public support is expressed vis-à-vis the status quo). The thick solid black line running through points SQ_i and A_i represents the range of possible policy alternatives with their implied positions on the substantive policy dimension and their levels of public support compared to the status quo.

In the example illustrated in Figure 2, the government's ideal point G_i is closer to the SQ_i than to the policy alternative A_i , as the distance between G_i and SQ_i is smaller than the distance between G_i and A_i . The government will prefer a policy alternative to the status quo only in the region of the line between SQ_i and SQ_i' . Hence, the government will choose SQ_i over A_i , which is preferred to the status quo by less than 50% per cent of the population.

However, if A_i had the same level of public support as the status quo (i.e. 50%), the government would have chosen A_i , since it is closer to its ideal point in terms of the substantive policy that A_i implies. This is seen by comparing the distance between the points G_i' and A_i' , which are the projections of G_i and A_i on the 50% line, with the distance between G_i' and SQ_i . In other words, if public opinion did not matter (or if it was the same for A_i and SQ_i), A_i would have been chosen, but given that public support matters, and the way it is distributed, the government prefers SQ_i .

2. Descriptive statistics

Table A1. Descriptive statistics

Variable	Minimum	Mean	Median	Maximum	St. dev.
Public support	0.04	0.51	0.52	0.97	0.21
Net public support	-0.90	0.12	0.17	0.96	0.40
Media salience	0.00	10.66	4.00	153.00	18.38
Duration of policy change (in months); censored at 48 months	0.00	14.97	10.00	46.00	13.54
Mean government position (centered)	-1.73	0.42	0.07	2.63	1.27
Minimum government position (centered)	-3.80	-0.36	-0.17	2.11	1.52
Maximum government position (centered)	-1.40	1.12	1.50	3.19	1.35
Range government position	0.00	1.48	0.93	4.02	1.32

Variable	Distribution
Existing proposal [yes/no]	17% / 83%
Direction of policy change [right/left]	56% / 44%
Policy change [yes/no]	39% / 61%
Policy scale [general LR/econ./GALTAN]	38% / 45% / 18%

3. Validating the measures of party positions

This part of the Supplementary Material explores the validity of the expert and manifesto-based measures of party positions. To do that, we obtained direct measures of the party positions for 102 policy issues in Germany on the basis of a comprehensive media search in German newspapers, starting with *Süddeutsche Zeitung* and *Frankfurter Allgemeine Zeitung* and extending the search when necessary (reference forthcoming). On the basis of this media search, the party positions on each issues had been coded as ‘In favor’ of the call for action on the policy issues, “Against”, or ‘Neutral’. We focus on the four parties that have been in government during our period of observation in Germany: CDU/CSU, SPD, FDP, and Die Grünen.

To compare this set of direct measures to the expert and manifesto-based ones, first we cross-tabulate them in order to examine the overlap and then we regress the directly-measured party positions on the general policy scale measures. The expert-based policy scale measures are based on the Chapel Hill dataset (Bakker et al. 2015). All 102 issues are assigned to one of the three main scales in this expert survey: general left-right, socio-economic left-right and GAL/TAN (green, alternative, liberal vs. traditional, authoritarian, nationalist). The manifesto-based measures are based on data from the Manifesto Project (Klingemann et al. 2007). In this dataset, all 102 issues are assigned to 12 different scales (education spending, environmental protection, foreign alliances, free market economy, internationalism, justice and freedom, macroeconomy, militarism, multiculturalism, target groups, traditional morality, welfare state), and the party positions on each scale are scaled according to the method proposed by Lowe et al. (2011).

To examine the overlap, we dichotomized the direct measures into ‘opposition’ or ‘no opposition’ (support or neutral) to the implied policy change, and we dichotomized the expert- and manifesto-based measures at the midpoints of the scales (5 and 0, respectively). Parties to the right of the midpoint can be considered right-wing, and parties to the left of the scales can be considered left-wing. We would expect right-wing parties to oppose policy changes moving the status quo towards the left and not to oppose policy changes moving the status quo to the right. Similarly, we would expect left parties to oppose right-leaning policy changes and not to oppose left-leaning ones.

Tables A2a and A2b present the results of the comparison. The entries in each cell show the number of positions in the respective category and indicate in brackets the shares from all positions (the ‘correct’ classifications are in green and the incorrect ones in red). For example, when we look at Table A2a that focuses on the Chapel Hill (CH) data, for left-leaning changes (changes that would move the status quo to the left) in 21 cases parties to the left of the midpoint of the relevant CH scale

have actually opposed the changes (14% of the total), in 58 cases left parties have not opposed such changes (38% of the total), parties to the right of the midpoint have opposed left-leaning changes in 47 of the cases (31%) and have not opposed them in 26 cases (17%).

Table A2a. Comparison between directly-measures positions and expert survey-based positions on three scales (CH)

Left-leaning changes (46%)	CH position left of middle	CH position right of middle
<i>Against</i>	21 (14%)	47 (31%)
<i>Not against (in favour/neutral)</i>	58 (38%)	26 (17%)
Right-leaning changes (54%)	CH position left of middle	CH position right of middle
<i>Against</i>	48 (27%)	29 (16%)
<i>Not against (in favour/neutral)</i>	46 (26%)	53 (30%)

Table A2b. Comparison between directly-measures positions and Manifesto-based positions on 12 scales (M)

Left-leaning changes (46%)	M position left of middle	M position right of middle
<i>Against</i>	36 (24%)	32 (21%)
<i>Not against (in favour/neutral)</i>	63 (41%)	21 (14%)
Right-leaning changes (54%)	M position left of middle	M position right of middle
<i>Against</i>	43 (24%)	34 (19%)
<i>Not against (in favour/neutral)</i>	40 (23%)	59 (34%)

Overall, with the Chapel Hill data (Table 2Aa), 63% of the cases are correctly classified. For left-leaning changes, 69% of the cases are correctly classified (parties left of the middle not opposing the changes and parties right of the middle opposing them). For right-leaning changes, 57% of the cases are correctly classified. When it comes to left parties on right-leaning changes, the match is not very good.

Overall, with the Manifesto data (Table 2Ab), 59% of the cases are correctly classified. For left-leaning changes, 62% of the cases are correctly classified (parties left of the middle not opposing the changes and parties right of the middle opposing them). For right-leaning changes, 57% of the

cases are correctly classified. When it comes to left parties on right-leaning changes, the match is not very good. The expert survey-based positions (Chapel Hill data) provide a better match to the directly-measured positions. Compared to the Manifesto positions, these measures do better in particular when identifying the opposition of right parties to left-leaning changes.

Another way in which we can explore the relationships between the direct positions measures and the party positions on the expert- and manifesto-based scales is to regress one of the position categories ('opposition') on the party positions measured on the relevant scales. Table A3 presents the result of such logistic regressions (separately for left- and right-leaning changes and for the two scale measures). We would expect significant negative coefficients of the scaled positions on right-leaning changes (the further to the right a party is on the scale, the less likely to oppose policy changes moving the status quo to the right) and significant positive coefficients for left-leaning changes.

Table A3. Logistic regression models of party opposition

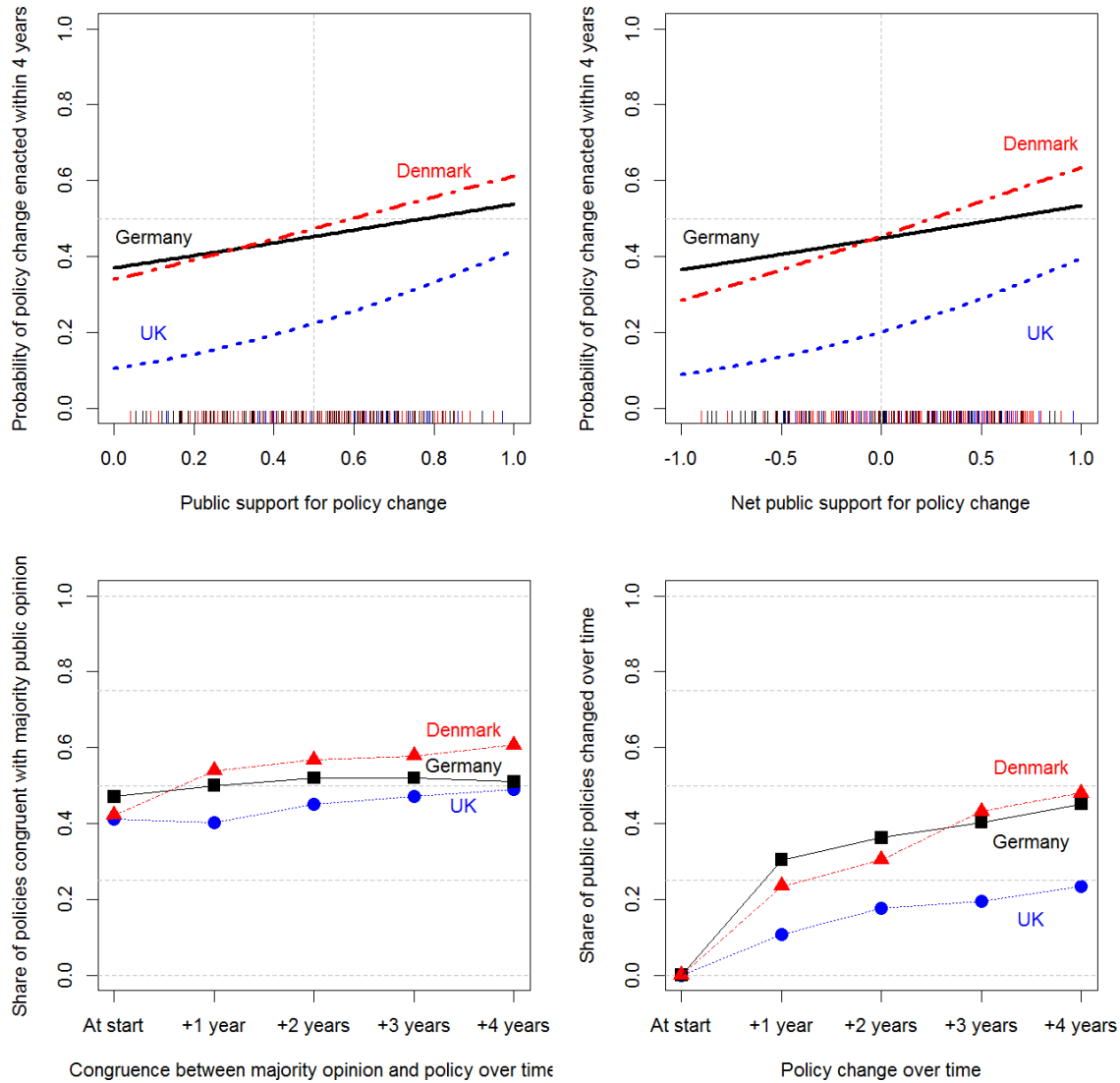
	CH data Left-leaning changes	CH data Right-leaning changes	Manifesto data Left-leaning changes	Manifesto data Right-leaning changes
<i>Intercept</i>	-2.90 (0.60) p-value<0.001	0.68 (0.47) p-value=0.15	-0.12 (0.17) p-value=0.50	-0.25 (0.15) p-value=0.10
Party position on the relevant scale	0.52 (0.11) p-value<0.001	-0.18 (0.09) p-value=0.04	0.19 (1.08) p-value=0.01	-0.01 (0.08) p-value=0.89
N	151	175	151	175

Note: Logistic regression models (with logit link). Dependent variable: party opposition to policy change. Unit of analysis is a party/policy issue. Unstandardized and unexponentiated coefficients.

The results from the regression analyses show that the expert survey-based (CH) scaled positions are highly and significantly predictive of opposition to policy change, both for left- and right-leaning changes. The Manifesto-based scaled positions perform worse, especially when it comes to right-leaning changes where the coefficient of the scaled positions is practically zero. This conclusion is in line with the inferences from the cross-tabulations presented above, which indicated that the Chapel Hill data provide a better fit to the directly-measured positions.

4. Public opinion and policy change: Descriptive and bivariate analyses

Figure A3. Public opinion and policy change in Western Europe: responsiveness and congruence



The top two panels of Figure A3 show how the likelihood of policy change varies with the percentage support for policy change (top-left) and with net public support for policy change (top-right). The lines for each of the three countries are based on the estimates from country-level logistic regression models of policy change regressed on public support and net public support, respectively. Clearly, in all three countries the likelihood of policy change increases with higher levels of public support, both absolute and net.

The strength of responsiveness is greatest in the UK and smallest in Germany. In substantive terms, however, the effect of public opinion is relatively small – for a change in the share of the public supporting policy change from 0 to 1 (a rather unlikely change), the likelihood of the government adopting the policy only shifts from 37% to 54% in Germany, from 34% to 61% in Denmark, and from 10% to 30% in the UK. For an increase in public support of 10 percentage points (still large, but more realistic), the likelihood of policy change increases with around 1.6 percentage points in Germany, around 2.6 percentage points in Denmark, and with around 3 percentage points in the UK. Also, note that the lines cross the y-axis at rather high points meaning that policy change has a substantial chance of happening even in the complete lack of public support.

The positive relationship between public support and the likelihood of policy change is not statistically significant in the country-level models without additional covariates. It is also worth noting that a policy change needs to enjoy at least 60% public support in Denmark and 80% in Germany to have a 50% or higher chance of being enacted within the next four years. In the UK sample, the bias towards the status quo is even more pronounced with policy change having an estimated maximum likelihood of only 42% even with maximum public support.

Another way to explore the relationship between public opinion and policy change is to examine the percentage of policies that are congruent with majority public opinion (meaning that the policy status quo at the time has the support of the majority of the public). The bottom-left panel of Figure A3 tracks average congruence for each country over our four-year period of observation. The three countries start with similar levels of congruence at the time when the opinions polls are taken (with public support favouring the status quo in 41% in Denmark and the UK and 48% in Germany). Over time, congruence rises to 50% in the UK, to 51% in Germany, and to 61% in Denmark. In sum, for the set of policy issues in our sample, four years after the initial call for public action congruence with public opinion is present in around half of the cases in Germany and the UK and round 3 out of 5 cases in Denmark.

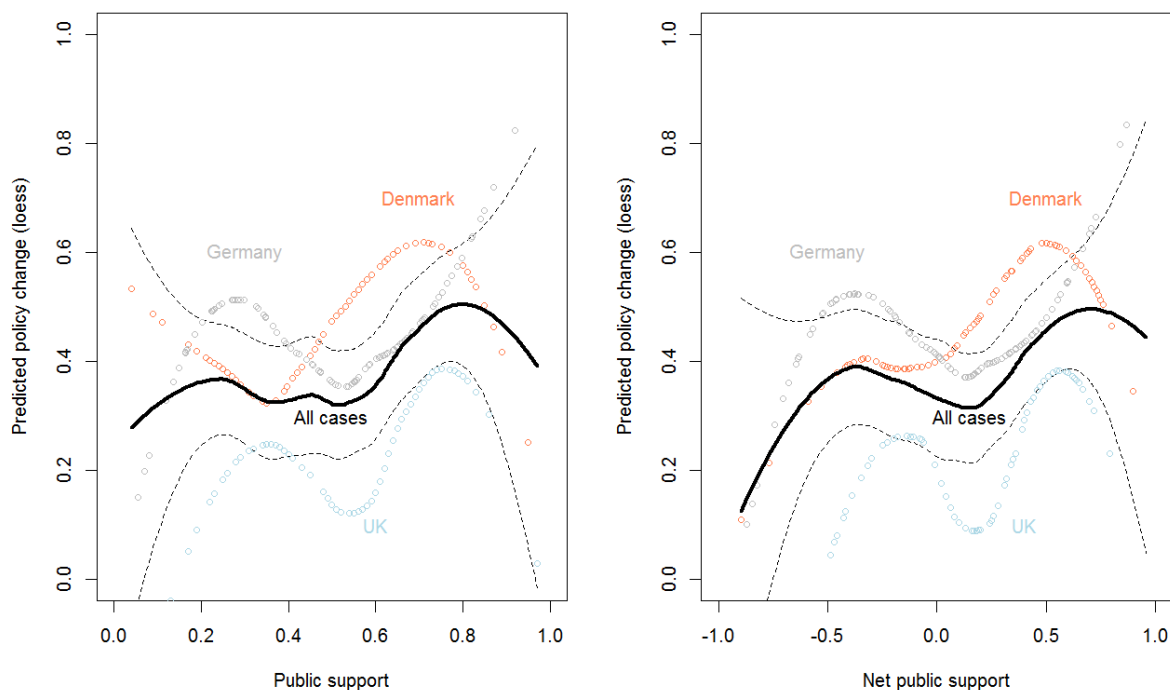
These very modest levels of congruence between policy and majority public opinion and even more modest levels of improvements in congruence over time happen despite a considerable degree of policy-making activity, as evidenced in the bottom-right panel of Figure A3. The plot shows the share of policies in the sample that experienced policy change (no matter whether favoured by public opinion or not) over four years. In the UK, around one quarter of the policies in the sample are changed within our period of observation; in Germany and Denmark, a little less than half. This

implies that while policy change occurs frequently, it often goes against majority public opinion, and it does not necessarily happen for all policies that have majority support.

The varying rates of policy change across the three countries evident in the plot also explain how the UK can be the most responsive to public opinion and the least congruent at the same time. While the overall level of policy-making change in the UK is low, when change happens, it is relatively responsive to public opinion support. On the contrary, Germany changes relatively many of its policies, but the ones that lack public support are almost as likely to be changed as ones that enjoy the support of the majority.

The analysis so far implicitly assumed that the effect of (net) public opinion is linear (on the scale of the predictor) in the logistic regression curves presented in the top two panels. It turns out that the effect is more complex than that. Figure A4 plots the predicted effect of public support (left panel) and net public support (right panel) on the likelihood of policy change as estimated by the non-linear local polynomial regression fitting (loess) function.

Figure A4. The relationship between public opinion and policy change



The solid black lines show the effect in the combined dataset while the dotted lines show the effect in models estimated on country-specific data. In the general case, it appears that as public support for policy increases from 0 to about 20% (and net support increases from -1 to about -0.5), the probability of policy change grows. However, between 20% and 50% support (and between -0.5 and +0.1 net support), the probability of change slightly decreases. Once support passes the 50% threshold (and +0.1 net support), the probability of policy change starts to increase again, but then for very high values of support, it decreases once more. The patterns differ somewhat among the three countries and given the relatively small sample size (especially at more extreme values of public opinion), we should be careful not to overinterpret these results. But they remain suggestive as to the non-linearity of the effect of public opinion on policy change. Because the form of the effect does not match a simple polynomial function (such as quadratic or log), we do not attempt to model it in the multivariate models we present below. As a precaution to nonlinearity, we also estimate the multivariate models with the public support variable dichotomized at the 50% mark.

We should also note the difference between the effects of (absolute) public support and net public support. While the effect on policy change of both these variables is positive, there is an important subtlety. When we dichotomize public support into just two categories (above and below 50%), the observed frequency of policy change is higher when a majority of the public supports policy change (43% vs. 33%), in line with theoretical expectations. However, the conclusion changes when we consider *net* public support. If we just dichotomize net public support into less than 0 (hence, net opposition) and above zero (hence, net support), the observed frequencies of policy change are almost exactly the same. This implies that when an absolute majority of public support is absent but the percentage of the public supporting the policy is still larger than the percentage opposing it, no policy change happens (from the 23 cases where there is no majority support but still there is net public support, 21 experience no policy change and only 2 do). In sum, it is not so much the *relative* share of policy supporters versus opponents that matters for the likelihood of policy change, but the *absolute* share of supporters from all citizens (including those without strong opinions on the issue).

5. Additional logistic regression models of policy change

Table A4. Additional logistic regression models of policy change

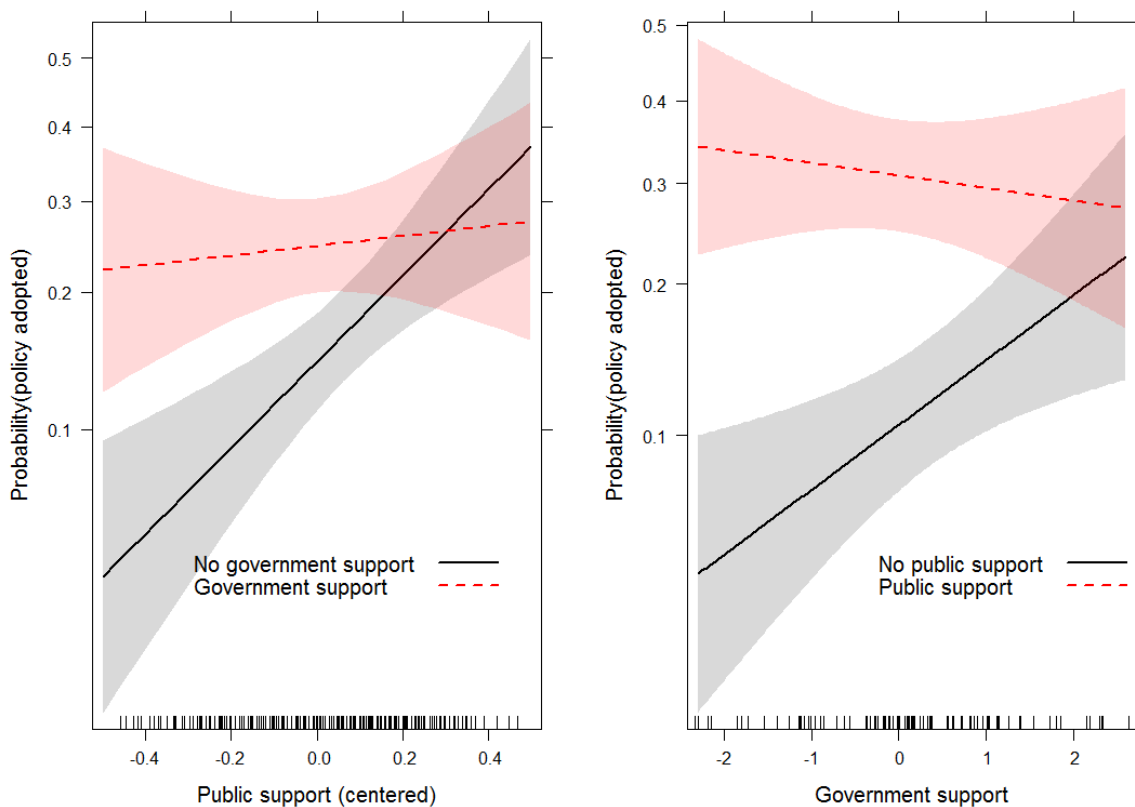
	Model A1	Model A2	Model A3	Model A4
<i>Intercept</i>	-2.46 (0.84) p-value=0.003	-3.07 (0.79) p-value<0.001	-2.42 (0.83) p-value=0.004	-2.27 (0.82) p-value=0.006
Public support	4.31 (1.95) p-value=0.027	3.37 (1.78) p-value=0.059	3.57 (1.87) p-value=0.057	3.39 (1.95) p-value=0.082
Government support	0.10 (0.08) p-value=0.224	0.11 (0.08) p-value=0.204	0.15 (0.09) p-value=0.100	0.13 (0.09) p-value=0.129
Public support*Gov. support	-0.69 (0.36) p-value=0.057	-0.29 (0.40) p-value=0.476	-0.35 (0.39) p-value=0.367	-0.44 (0.41) p-value=0.277
Number of parties in government	-0.20 (0.28) p-value=0.475	-0.02 (0.24) p-value=0.936	-0.26 (0.27) p-value=0.342	-0.30 (0.26) p-value=0.249
Public support*Number of parties	-0.54 (0.88) p-value=0.081	-0.72 (0.63) p-value=0.252	-0.98 (0.82) p-value=0.228	-1.04 (0.85) p-value=0.218
Media salience	0.33 (0.10) p-value=0.002	0.34 (0.10) p-value=0.001	0.32 (0.10) p-value=0.002	0.32 (0.10) p-value=0.003
Public support*Media salience	/	/	/	0.22 (0.43) p-value=0.604
<i>Existing proposal</i>	0.95 (0.29) p-value=0.001	0.99 (0.29) p-value=0.001	0.92 (0.29) p-value=0.002	0.92 (0.29) p-value=0.002
<i>Remaining months</i>	0.04 (0.01) p-value<0.001	0.04 (0.01) p-value<0.001	0.04 (0.01) p-value<0.001	0.04 (0.01) p-value<0.001
<i>Denmark</i>	0.28 (0.33) p-value=0.394	0.43 (0.36) p-value=0.239	0.22 (0.33) p-value=0.496	0.25 (0.33) p-value=0.450
<i>United Kingdom</i>	-1.28 (0.46) p-value=0.007	-0.97 (0.44) p-value=0.026	-1.41 (0.46) p-value=0.002	-1.32 (0.46) p-value=0.004
AIC	518	519	517	515

Note: Logistic regression models (with logit link). Dependent variable: occurrence of policy change. Unit of analysis is a government spell; N=525. Unstandardized and unexponentiated coefficients. Public opinion centered at 0.5. Government positions centered at 0. Media saliency is logged.

Model A1 features a measure of government support that is calculated under the assumptions that every government party has veto over the proposals (rather than the weighted average measure reported in the other models). Note that the statistical significance of the interactions in this model is not robust to entering the interactions one by one. Models A2 features measures of the number of coalition partners and government preferences that take into account unofficial coalition partners of the Danish minority government parties. Model A3 uses an alternative measure of public support calculated as percentage from respondents excluding 'don't knows'. Model A4 enters all interactions in the same model.

6. Additional figures illustrating the interaction effects

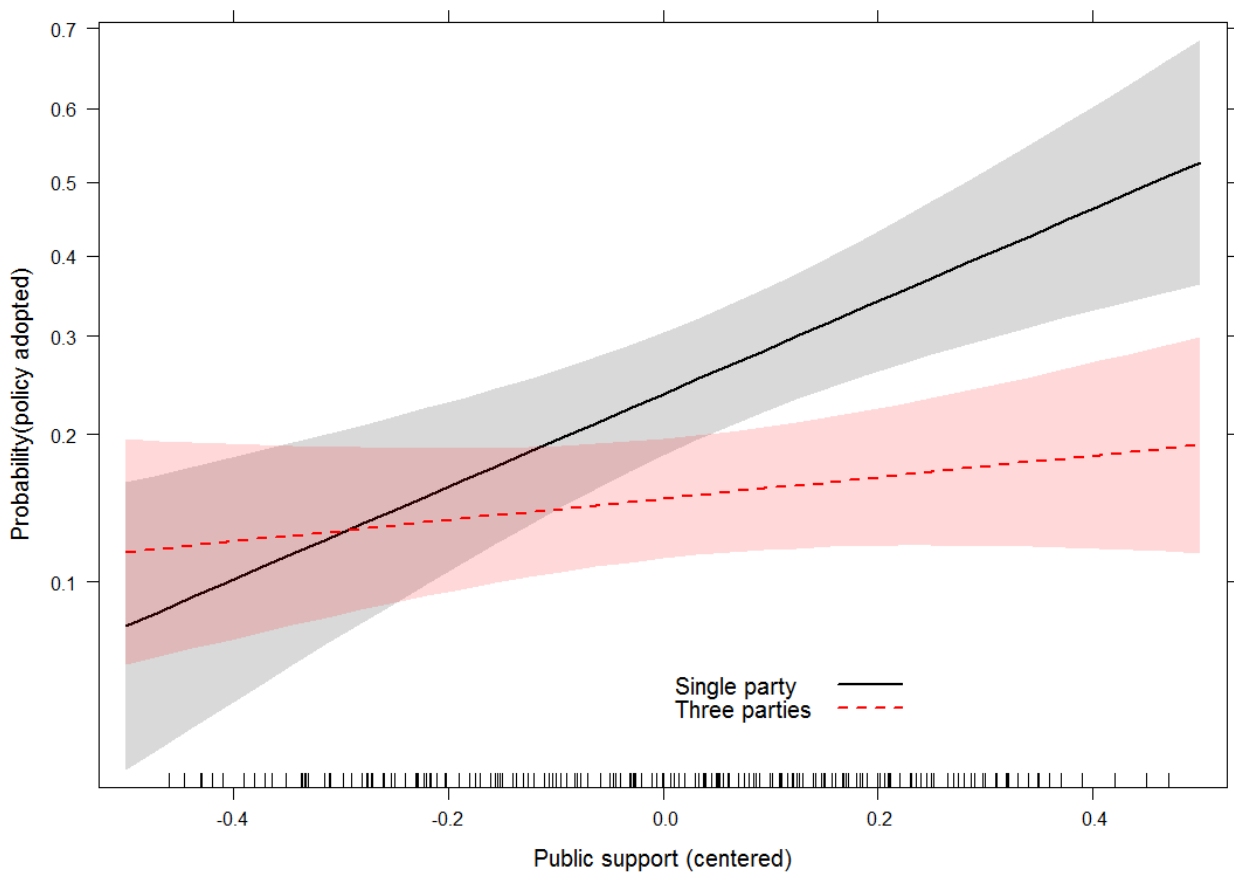
Figure A5. Interactions between public support and government support.



The illustrated interaction effect is based on the estimates of Model 3 in the main text. The shaded regions indicate 75% (thus, *not* the more usual 95%) confidence limits. On the left panel, public

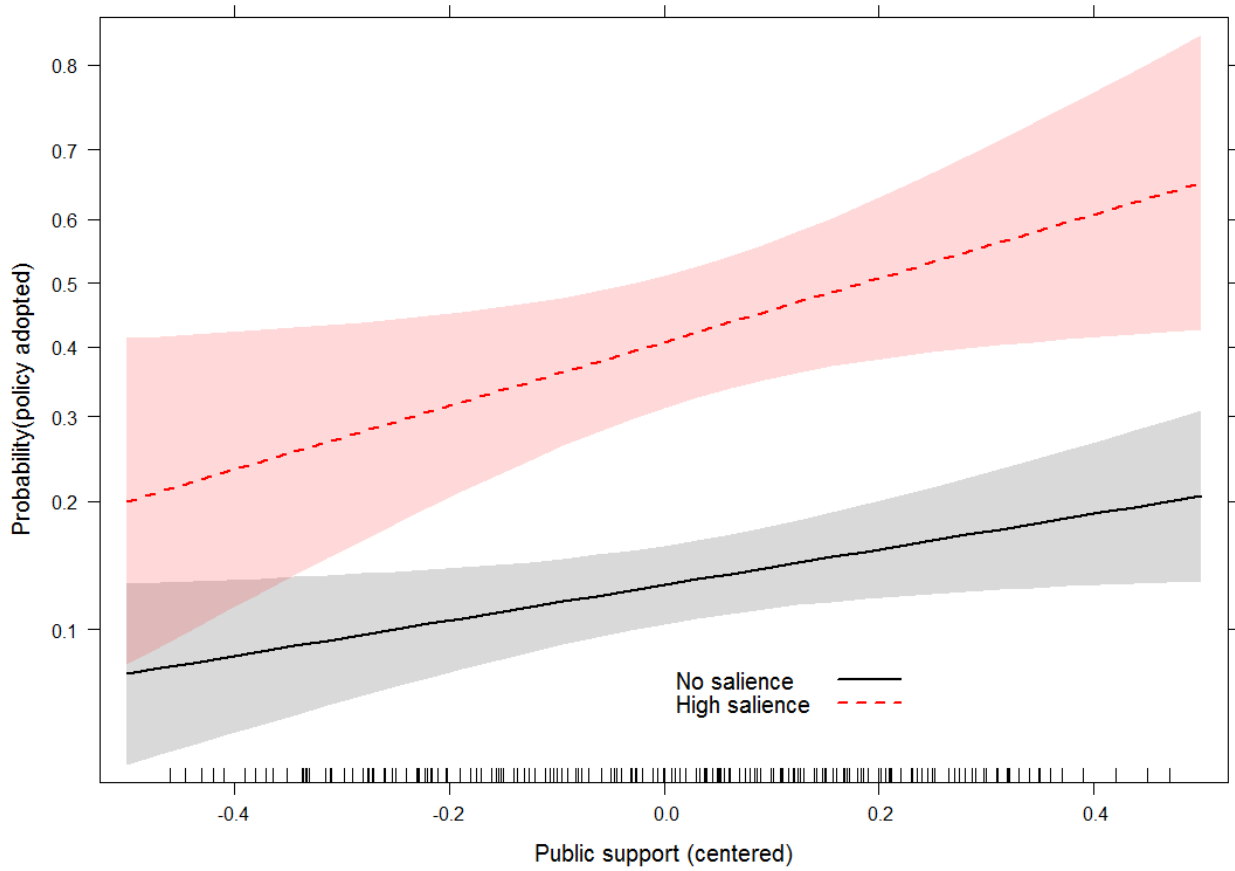
opinion runs from no support to full support on the x-axis and the two regression slopes are drawn for issues with (+2.6) and without government support (-2.3). On the right panel, government support run from the observed minimum to the observed maximum on the x-axis and the two regression slopes for the effects on policy change (represented on the y-axis) are drawn for issues that have total public support (+0.45) and no support (-.045) at all.

Figure A6. Interactions between public support and number of parties in government.



The illustrated interaction effect is based on the estimates of Model 3 in the main text. The shaded regions indicate 75% (thus, *not* the more usual 95%) confidence limits. Public opinion runs from no support to full support on the x-axis and the two regression slopes are drawn for issues under a single government and under a three party-government.

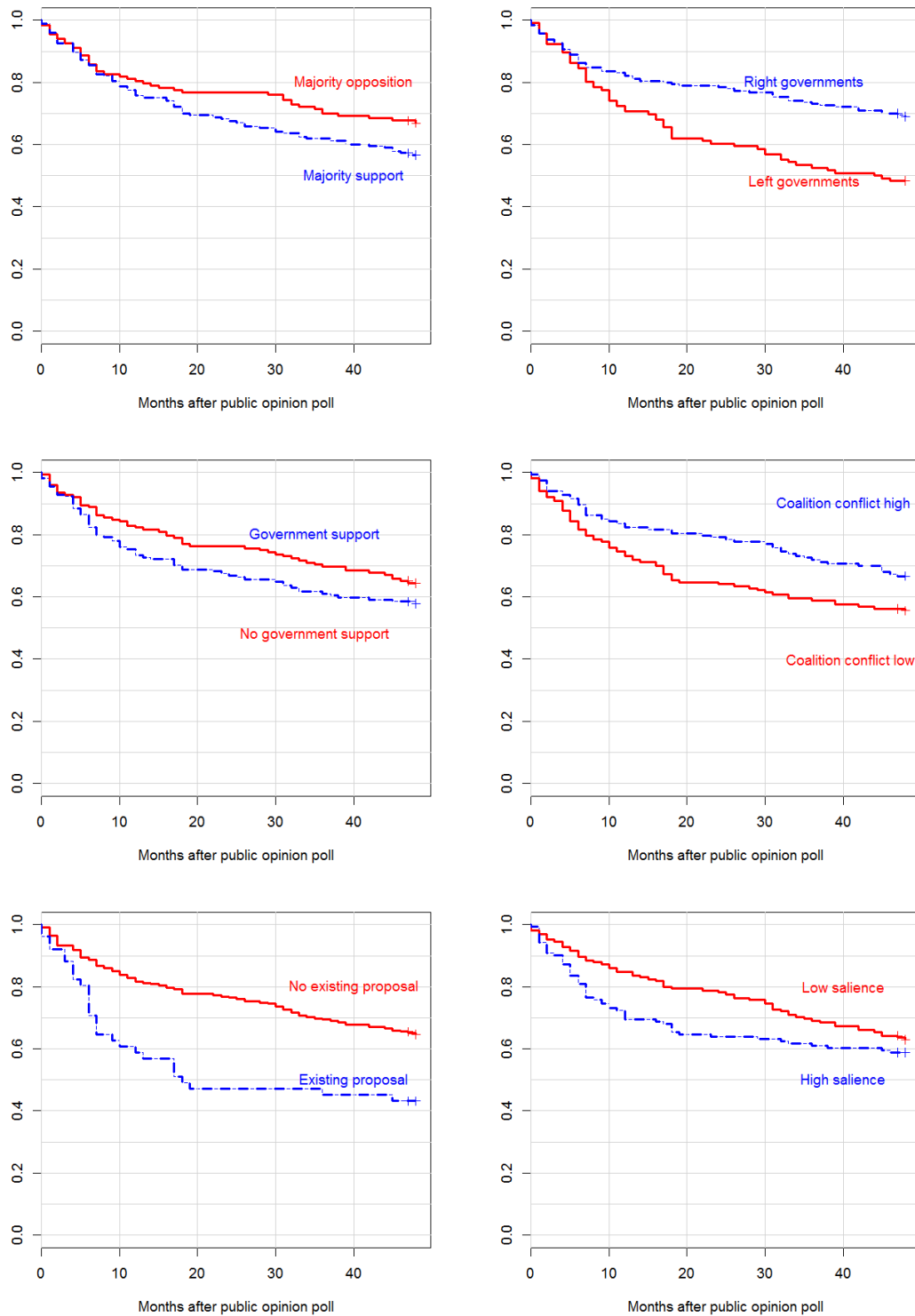
Figure A7. Interactions between public support and salience.



The illustrated interaction effect is based on the estimates of Model 4 in the main text. The shaded regions indicate 75% (thus, *not* the more usual 95%) confidence limits. Public opinion runs from no support to full support on the x-axis and the two regression slopes are drawn for issues with no salience and issues with high salience (fixed at the maximum observed value in the data).

7. Time until policy change: duration analysis

Figure A8. Kaplan-Meier survival curves: share of policy issues on which policy change is enacted over time, per different types of proposals



The plots trace the share of non-adopted proposals for different subgroups of cases over each month of the observation period (up to 48 months). Note that the starting observation date for each case – the date of the opinion poll – is to some extent arbitrary. However, there should be no systematic bias across the major variables of interest in terms of the starting dates. The different panels of the figure show the survival curves for cases with majority public support or not; decided under left/GAL and right/TAN governments; with implied policy direction consistent with the government position or not; under higher or lower than average coalition conflict; for cases with pre-existing bill or not, and for cases of higher or lower than average salience. The steeper the slopes of the lines, the faster the specific types of cases represented by the lines get adopted. The greater the distance between the two curves on each plot, the bigger the difference in the relative share of adopted cases from the two respective groups of cases at the point of time indicated by the x-axis.

We can see from the plot in the top-left corner of Figure A8 that during the first 8 months of the lifetime of cases, majority public support does not make a difference on the probability of policy change enactment. After this point, a difference appears that grows until about month 30, and then starts to shrink somewhat. The dynamic is similar for cases that differ in implied direction of the policy changed (in line with government positions or not).

Looking at the difference between governments with left/GAL and right/TAN positions (top-right panel), the former appear to enact a higher share of cases (consistent with the insights from the previous analyses), and the difference grows over time. The effect of coalition conflict sets in a few months earlier, but starts to disappear after month 16. The effect of having an existing proposal is greatest in terms of size (bottom-left panel), but it is mostly due to changes that accumulate in the first twelve months of the lifetime of cases: if a policy change has not been enacted within this period, it makes little difference whether an existing bill has been in place or not in the beginning of the observation period. The (smaller in absolute size) effect of media salience also sets in early and starts to decline after month 18 or so. Altogether, Figure A8 shows that the effects of all variables considered so far are not very stable over time, and most effects are rather small altogether.

The analyses so far focused on the question whether policy change occurred at all within a four-year period after the public opinion survey was conducted. The speed of policy change, however, is another important aspect that deserves attention in its own right. In addition, the event history analysis can address the complication that for many of our cases the observation time is censored at four years, which is the length of time we followed each policy issue.

Table A5 presents the results of three Cox proportional hazards models with time-varying measures of government positions and coalition conflict. Model A5 has the main effects of interest, while Models A6 and A7 add the two interactions – between coalition conflict and public support and between government support and public support, respectively. The findings are very similar to the logistic regressions of the likelihood of policy change presented above. Public support has a consistently positive and significant (in Models A5 and A7) effect on the hazard of policy change (hence, it is associated with shorter durations until change occurs). Coalition conflict has no effect, while the main effect of government support is positive and marginally significant leaving some evidence that policy changes in line with the general positions of the government tend to occur faster.

Table A5. Cox Proportional Hazards models with time-varying covariates

	Model A5	Model A6	Model A7
Public support	0.94 (0.45) *	0.72 (0.77)	1.05 (0.45) *
Coalition conflict	0.03 (0.09)	0.02 (0.09)	0.02 (0.09)
Government support	0.10 (0.06)'	0.10 (0.06)'	0.12 (0.07)'
Public support*Coalition conflict	/	0.14 (0.38)	/
Public support*Government support	/	/	-0.40 (0.29)
Media saliency	0.26 (0.09) **	0.26 (0.09) **	0.27 (0.09) **
Existing proposal	0.80 (0.22)***	0.80 (0.22)***	0.81 (0.21) ***

Note: Cox Proportional Hazards models with time-varying covariates. Dependent variable: occurrence of policy change on a policy in a month. N=10815. The models are stratified by country and clustered by case id. Unstandardized and unexponentiated coefficients. Public opinion centered at 0.5. Media saliency is logged. Significance levels: 0 < *** < 0.001 < ** < 0.01 * < 0.05 ` < 0.1